

ABSTRACT OF THE DISCLOSURE

VASOOCCLUSIVE DEVICE FOR TREATMENT OF ANEURYSMS

The three-dimensional device is adapted to be inserted into a portion of a vasculature for occluding the portion of the vasculature for use in interventional therapy and vascular surgery. The device is formed from a multi-stranded micro-cable having a plurality of flexible strands of a shape memory material and at least one radiopaque strand. The flexible strands in a multi-stranded micro-cable of the device can be helically wound, or can be configured as parallel, longitudinal strands, and can also be formed to have a secondary, three-dimensional therapeutic configuration, such as helical, conical, spherical, or other geometric shapes. The strands can be made of a shape memory nickel titanium alloy, that is highly flexible at a temperature appropriate for introduction into the body via a catheter, and that after placement will take on the therapeutic shape. The device can also include a therapeutic agent, and can be bundled by an outer cover to constrain the strands of the micro-cable about a longitudinal axis to produce a composite banded cable. The radiopaque strand can have a core strand with a plurality of intermittently spaced apart enlarged radiopaque portions that may be a plurality of beads of radiopaque material spaced apart and mounted on the core strand, or a plurality of coils intermittently wound about and spaced apart on the core strand. A polyhedral occlusive device is also provided, adapted to be inserted into a portion of a vasculature for occluding a portion of the vasculature, for use in interventional therapy and vascular surgery. One or more therapeutic fibers can also be woven into the coil to enhance treatment of the side after placement of the device.